UNITED STATES PATENT AND TRADEMARK OFFICE

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/500,146	07/09/2004	Yasushi Katayama	253399US6PCT	5243

22850   7590   05/01/2008
OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C.
1940 DUKE STREET
ALEXANDRIA, VA 22314

EXAMINER
NICKERSON, JEFFREY L

ART UNIT	PAPER NUMBER
2142	

NOTIFICATION DATE	DELIVERY MODE
05/01/2008	ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

		Application No.	Applicant(s)
		10/500,146	KATAYAMA, YASUSHI
Office Action Summary		Examiner	Art Unit
		JEFFREY NICKERSON	2142

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on <u>31 March 2008</u>.
2a) ☐ This action is **FINAL**.   2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) <u>1-26</u> is/are pending in the application.
    4a) Of the above claim(s) _____ is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) <u>1-9,11-22 and 24-26</u> is/are rejected.
7) ☒ Claim(s) <u>10 and 23</u> is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
    Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
    Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
    a) ☐ All b) ☐ Some * c) ☐ None of:
       1. ☐ Certified copies of the priority documents have been received.
       2. ☐ Certified copies of the priority documents have been received in Application No. _____.
       3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
    * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____
5) ☐ Notice of Informal Patent Application
6) ☐ Other: _____.

DETAILED ACTION

1.   This communication is in response to Application No. 10/500,146 filed on nationally on 09 July 2004 and internationally on 18 November 2003. The amendment presented on 31 March 2008, which provides change to claims 1-4, 6, and 8-26, is hereby acknowledged. Claims 1-26 have been examined.

Response to Amendment

2.   Applicant's request for reconsideration of the finality of the rejection of the last Office action is persuasive and, therefore, the finality of that action is withdrawn.

Claim Objections

3.   The amendment providing change to claims 10 and 23 is noted. All prior objections to the claims are hereby withdrawn.

Response to Arguments

4.   Applicant's arguments, see After-Final Amendment, filed 31 March 2008, with respect to the rejection(s) of claim(s) 1 and 14 under 35 USC 103(a) in view of Fradette (US 6,606,698) and Kaneko (US 2003/0101272) have been fully considered and are persuasive. Therefore, the rejection has been withdrawn. However, upon further consideration, a new ground(s) of rejection is being made.

Claim Rejections - 35 USC § 103

5.   The text of those sections of Title 35, U.S. Code not included in this action can
be found in a prior Office action.

6.   Claims 1, 3, 8, 14, 16, and 21 are rejected under 35 U.S.C. 103(a) as being
unpatentable over Fradette (US 6,606,698 B2), and further in view of Kaneko et al (US
2003/0,101,272 A1), and Rodriguez et al ("Dynamic Parallel Access to Replicated
Content in the Internet", August 2002).

Regarding claim 1, Fradette teaches an information processing apparatus
        configured to serve as a reproduction instruction apparatus to transmit a data
reproduction process request (translated request) (Fradette: col 2, lines 6-11 specify
manipulating the request) to a node (jukeboxes) connected to a network (Fradette:
Figure 13, item 20d specify it could connect to a network; col 1, lines 52-55 specify
jukeboxes on a network) and to execute a data reproduction process based on return
data (Fradette: col 9, lines 52-59 specify updating the cache) comprising:
        a packet generating unit (normalizer) configured to set reproduction request
process object data (translated request) and to set an address setting process (storage
address generator), and to generate a data reproduction process request packet
(normalized request) storing designation data for the set request process object data
(translated request) as a request statement (Fradette: col 2, lines 11-14);

a network interface unit (access unit) configured to transmit the data reproduction process request packet generated by the packet generating unit. (Fradette: col 2, lines 16-17 and col 5, lines 46-48 specify the access unit is a communication interface). Fradette does not teach a data transmission rate setting unit configured to select a transmission mode or determine the transmission rate. Nor does Fradette teach setting an address in accordance with the data transmission rate.

Kaneko, in a similar field of endeavor, teaches a data transmission rate setting unit (Kaneko: Figure 1, item 11: data management unit) configured to select one or more data transmission modes (Kaneko: transfer method) to be adopted as a return data transmission mode (Kaneko: [0079] provides the distribution is occurring in reply to a request) from a plurality of data transmission modes and to determine a data transmission rate (Kaneko: band in use/transfer rate) of the selected one or more data transmission modes (Kaneko: [0005] specifies a "distribution information" that contains the selected transfer method from either unicast or multicast and the transfer rate; Kaneko: [0012-0013] specify the band in use can be adjusted based on the method, providing it can be determined).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Kaneko for managing data transfer by selecting a transmission mode and rate. The teachings of Kaneko, when implemented in the Fradette system, would allow for more efficient and faster data transfer capabilities. One of ordinary skill in the art would be motivated to utilize the teachings of Kaneko in the Fradette system in order to efficiently manage the distribution of content.

The Fradette/Kaneko system does not teach setting an address in accordance with the data transmission rate.

Rodriguez, in a similar field of endeavor, teaches selecting servers (and thus setting addresses) based on the data transmission rate (Rodriguez: abstract specifies selectively choosing servers based on various criteria; Section II paragraphs 1-2 provide that the server selection, and thus addressing of requests, is based on transmission rates).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Rodriguez for selecting servers based on transmission rates. The teachings of Rodriguez, when implemented in the Fradette/Kaneko system, would allow for more efficient and faster data transfer capabilities. One of ordinary skill in the art would be motivated to utilize the teachings of Rodriguez in the Fradette/Kaneko system in order to efficiently manage the distribution of content.

Regarding claim 3, the Fradette/Kaneko/Rodriguez system teaches an information processing apparatus wherein:

the data transmission rate setting unit is configured to select the one or more data transmission modes from a carousel transmission mode (Kaneko: multicast method), a chaining transmission mode, a distributed cache mode or a client server mode (Kaneko: unicast method) (Kaneko: [0005] and [0012-0013]).

Regarding claim 8, the Fradette/Kaneko/Rodriguez system teaches an information

processing apparatus further comprising:

a rule judgment condition setting unit (caching unit) configured to set judgment

data (I/O status) for judging whether the node executes a process satisfying a process

request (whether the read or write process has completed) (Fradette: col 8, lines 35-50

specifies the I/O status can be changed and transmitted back before the data is written

at the node); and

wherein the packet generating unit (Fradette: normalizer) is configured to

generate the data reproduction process request packet, the data reproduction process

request packet storing the judgment data set by the rule judgment condition setting unit

(Fradette: col 9, line 60 – col 10, line 3 specify the requested data and I/O status are

both sent back to the host).

Regarding claim 14, this method claim comprises limitations corresponding to that of

claim 1 and the same rationale of rejection is used, where applicable.

Regarding claim 16, this method claim comprises limitations corresponding to that of

claim 3 and the same rationale of rejection is used, where applicable.

Regarding claim 21, this method claim comprises limitations corresponding to that of

claim 8 and the same rationale of rejection is used, where applicable.

7.   Claims 2, 4, 6, 15, 17, and 19 are rejected under 35 U.S.C. 103(a) as being

unpatentable over Fradette (US 6,606,698 B2), in view of Kaneko et al (US

2003/0,101,272 A1) and Rodriguez et al ("Dynamic Parallel Access to Replicated

Content in the Internet", August 2002), and in further view of Day (US 7,222,185 B1).

Regarding claim 2, the Fradette/Kaneko/Rodriguez system teaches an information

processing apparatus wherein the data transmission rate setting unit is configured to

select the one or more data transmission modes (Kaneko: [0005]).

        The Fradette/Kaneko/Rodriguez system does not teach selecting a transmission

mode based on a demand level of the reproduction object data.

        Day, in a similar field of endeavor, teaches setting the data transmission mode in

accordance with a demand level (Day: popularity) of reproduction object data (Day:

content) (Day: abstract).

        It would have been obvious to one of ordinary skill in the art at the time the

invention was made to utilize the teachings of Day for selecting a transmission mode

based on the demand of the content. The teachings of Day, when implemented in the

Fradette/Kaneko/Rodriguez system, would allow for a more efficient content distribution

and retrieval system. One of ordinary skill in the art would be motivated to utilize the

teachings of Day in the Fradette/Kaneko/Rodriguez system in order to maximize the use

of network resources.

Regarding claim 4, the Fradette/Kaneko/Rodriguez/Day system teaches an information processing apparatus wherein:

the data transmission rate setting unit (Day: system controller) is configured to have correspondence data (Day: content distribution characteristic) between the demand level (Day: popularity) of the reproduction object data (Day: content) (Day: abstract;) and a band rate as the data transmission rate of a selected data transmission mode; (Day: col 7, lines 7-11 provide that the content distribution characteristic should be based on factors other than just popularity; Kaneko: [0005] specify a transfer rate corresponding with selected modes), and to select the one or more data transmission modes based upon demand level information of the reproduction object data in accordance with the correspondence data (Day: col 2, lines 58-62).

Regarding claim 6, the Fradette/Kaneko/Rodriguez/Day system teaches an information processing apparatus wherein:

the data transmission rate setting unit (Day: system controller) is configured to select a carousel transmission mode (Day: multicast/one-to-many) as the return data transmission mode, (Day: abstract) when a demand level (Day: content distribution characteristic) of the reproduction object data (Day: content) is higher than a preset threshold value. (Day: col 3, lines 42-52 specify comparing the popularity level to a threshold; Day: abstract specifies a higher popularity results in a multicast mode providing it has to be above the threshold).

Regarding claim 15, this method claim comprises limitations corresponding to that of

claim 2 and the same rationale of rejection is used, where applicable.

Regarding claim 17, this method claim comprises limitations corresponding to that of

claim 4 and the same rationale of rejection is used, where applicable.

Regarding claim 19, this method claim comprises limitations corresponding to that of

claim 6 and the same rationale of rejection is used, where applicable.

8.   Claims 5 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fradette (US 6,606,698 B2), in view of Kaneko et al (US 2003/0,101,272 A1),

Rodriguez et al ("Dynamic Parallel Access to Replicated Content in the Internet", August

2002), and Day (US 7,222,185 B1), and further in view of Desphande (US 7,191,246

B2).

Regarding claim 5, the Fradette/Kaneko/Rodriguez/Day system teaches an information

processing apparatus wherein:

        the data transmission rate setting unit (Day: system controller) is configured to

execute a process of determining the data transmission rate of each data transmission

mode (Kaneko: [0005] specify a transfer rate corresponding with selected modes;

Kaneko: [0012-0013] specify adjusting, which provides for determining) in accordance

with a demand level x (Day: popularity), a band rate y for each transmission mode
(Kaneko: band in use).

The Fradette/Kaneko/Rodriguez/Day system does not teach creating a function
group in order to determine the transmission rate, where the summation of the group is
set to equal another value.

Desphande, in a similar field of endeavor, teaches selecting a data transmission
rate based on a cost function, which comprises sub-cost functions from each receiver
that can be identified with a particular notation (Desphande: col 5, lines 31 – 62 specify
a cost function and in the summation equations listed he denotes an indicator j for the
sub functions).

It would have been obvious to one of ordinary skill in the art at the time the
invention was made to utilize the teachings of Desphande for determining the
transmission rate based on a function group. The teachings of Desphande, when
implemented in the Fradette/Kaneko/Rodriguez/Day system, would allow for a more
efficient and accurate data transmission rate determination process. One of ordinary
skill in the art would be motivated to utilize the teachings of Desphande in the
Fradette/Kaneko/Rodriguez/Day system in order to "select transmission rates suitable
for a plurality of clients" and to provide rate selection for various modes, such as
"unicast and multicast delivery mechanisms" (Desphande: col 3, lines 13-18).

Regarding claim 18, this method claim comprises limitations corresponding to that of
claim 5 and the same rationale of rejection is used, where applicable.

9.   Claims 7 and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over

Fradette (US 6,606,698 B2), in view of Kaneko et al (US 2003/0,101,272 A1),

Rodriguez et al ("Dynamic Parallel Access to Replicated Content in the Internet", August

2002), and in further view of Noma et al (US 2003/0055988 A1).

Regarding claim 7, the Fradette/Kaneko/Rodriguez system teaches an information

processing apparatus, further comprising:

       a data recovery processing unit (Fradette: normalizer) that can compress,

decompress, encrypt, and decrypt data and combining data requests (Fradette: col 4,

line 66 – col 5, line 15); and

       wherein the data recovery processing unit is configured to execute the processes

for the reproduction object data extracted from packets received from the node

(Fradette: col 5, lines 8-15 specify that the process is performed on read data).

       The Fradette/Kaneko/Rodriguez system does not teach using an interleaving or

de-interleaving process on the data or using the specific encoding/decoding technique

of Forward Error Correction (FEC).

       Noma, in a similar field of endeavor, teaches a data recovery processing unit

(Noma: de-scrambler/de-FEC/de-interleave unit) for executing a deinterleave process

and an FEC decoding process; (Noma: [0044]) on received data (Noma: [0044]

specifies a receiver side) in order to recover data (Noma: [0044] specifies checking data

reliability).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Noma for interleaving/deinterleaving and FEC encoding/decoding on transmitted/received data. The teachings of Noma, when implemented in the Fradette/Kaneko/Rodriguez system, would allow for a more efficient data transfer system that could allow quicker data recovery. One of ordinary skill in the art would be motivated to utilize the teachings of Noma in the Fradette/Kaneko/Rodriguez system for quickly and reliably correcting errors.

Regarding claim 20, this method claim comprises limitations corresponding to that of claim 7 and the same rationale of rejection is used, where applicable.

10.   Claims 9 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fradette (US 6,606,698 B2), in view of Kaneko et al (US 2003/0,101,272 A1), Rodriguez et al ("Dynamic Parallel Access to Replicated Content in the Internet", August 2002), and further in view of Fukunaga et al (US 6,282,240 B1).

Regarding claim 9, the Fradette/Kaneko/Rodriguez system teaches an information processing apparatus wherein:

the packet generating unit is configured to generate a packet storing return data (Fradette: col 9, lines 52-62 specify constructing a packet with status information).

The Fradette/Kaneko/Rodriguez system does not teach creating a probability value capable of being adopted by a judgment process.

Fukunaga, in a similar field of endeavor, teaches a rule judgment condition setting unit (Fukunaga: reception capability estimate unit) configured to execute a process of setting a probability value (Fukunaga: col 5, lines 18-34 specify the probability estimating unit) as a reproduction rule judgment condition statement (Fukunaga: reception capability estimate) for judging whether the node executes the process satisfying the process request (Fukunaga: col 5, lines 35-48 specify the selection unit which determines if the target is capable of receiving the next frame).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Fukunaga for estimating a probability of a characteristic of the receiving node and utilizing that probability in a process. The teachings of Fukunaga, when implemented in the Fradette/Kaneko/Rodriguez system, would allow for a more selective target determination transmission mode. One of ordinary skill in the art would be motivated to utilize the teachings of Fukunaga in the Fradette/Kaneko/Rodriguez system in order to allow broadcasting and multicasting transmission schemes to selectively retransmit packets to targets and decrease the overall network load.

Regarding claim 22, this method claim comprises limitations corresponding to that of claim 9 and the same rationale of rejection is used, where applicable.

11.   Claims 11-13 and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Day (US 7,222,185 B1), and further in view of Gemmell (US 6,678,855 B1).

Regarding claim 11, Day teaches an information processing apparatus configured to serve as a demand information provider apparatus (Day: Figure 3, item 32 in combination with item 82) configured to provide demand level information of transmission data (results) over a network (Day: Figure 3, item 36; Day: col 8), comprising:

    a communication unit (Day: system controller) configured to transmit data to and to receive data from a network-connected node (Day: Figure 3, item 34: receiver) (Day: col 8, lines 4-11);

    a control unit (Day: system controller in combination with counting facility) configured to count a number of demand level information acquisition requests received from the network-connected node via the communication unit (Day: col 8, 18-27 specify tracking requests and then counting them) and to generate demand level information for each transmission data (Day: results) in accordance with the count (Day: col 8, lines 22 – 33 specify tracking and creating results from the number of requests), to generate response information (Day: reports) corresponding to each demand level information acquisition request in accordance with the generated demand level information (Day: results) (Day: col 8, lines 22 – 36 specify reporting the results), to transmit the response

information via the communication unit (Day: col 8, lines 33 – 36 specify reporting the results back to the system controller).

Day does not teach wherein in a carousel transmission process request, carousel transmission destination address information set in accordance with transmission source node address information of the received demand level information acquisition request.

Gemmell, in a similar field of endeavor, teaches wherein in a carousel transmission process request, carousel transmission destination address information set in accordance with transmission source node address information of the received demand level information acquisition request (Gemmell: Figure 1; col 1, line 65 – col 2, line 9 provides that transmission objects are addressed and then forwarded based on the received content requests).

It would have been obvious to one of ordinary skill in the art at the time the invention was made to utilize the teachings of Gemmell for addressing packets based off the requester's address. The teachings of Gemmell, when implemented in the Day system, would allow for nodes to return content to the proper requester. One of ordinary skill in the art would be motivated to utilize the teachings of Gemmell in the Day system in order to increase the efficiency of multicasting.

Regarding claim 12, the Day/Gemmell system teaches an information processing apparatus wherein:

the control unit (Day: system controller in combination with counting facility) is configured to execute transmission control of the carousel transmission (Day: multicast) process request for data corresponding to a demand level equal to or larger than a threshold value, relative to a carousel transmission execution node when the demand level for each data based upon the count becomes equal to or larger than a preset threshold value (Day: col 8, lines 37-61 specify choosing unicast if below a threshold for unpopular content; Day: abstract specifies choosing multicast if the popularity is higher).

Regarding claim 13, Day/Gemmell system teaches an information processing apparatus wherein:

the control unit (Day: system controller in combination with counting facility) is configured to include an identifier (Day: name) of carousel transmission execution object data (content) of the received demand level information acquisition request, in the carousel transmission process request (Day: col 10, lines 53-62 specify content information stored in an allocation table; Day: col 9, lines 7-15 for allocation table description).

Regarding claim 24, this method claim comprises limitations corresponding to that of claim 11 and the same rationale of rejection is used, where applicable.

Regarding claim 25, this method claim comprises limitations corresponding to that of claim 12 and the same rationale of rejection is used, where applicable.

Regarding claim 26, this method claim comprises limitations corresponding to that of

claim 13 and the same rationale of rejection is used, where applicable.

Allowable Subject Matter

12.　　Claim 10 and 23 are objected to as being dependent upon a rejected base claim,

but would be allowable if rewritten in independent form including all of the limitations of

the base claim and any intervening claims.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to JEFFREY NICKERSON whose telephone number is (571)270-3631. The examiner can normally be reached on M-Th, 8:30-6:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Andrew Caldwell can be reached on 571-272-3868. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/J. N./
Jeffrey Nickerson
Examiner, Art Unit 2142

/Andrew Caldwell/
Supervisory Patent Examiner, Art Unit 2142